

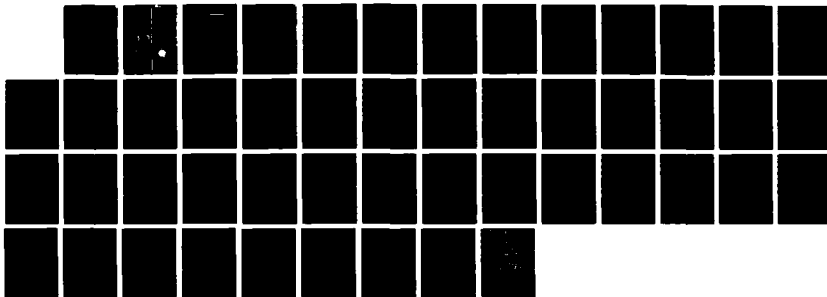
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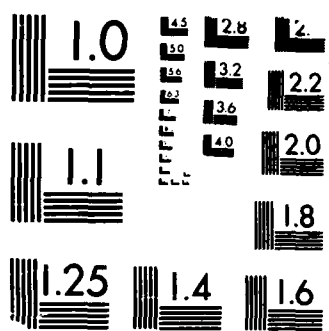
EXPLOITING THE VERTICAL DIMENSION: CONTINUING
DEVELOPMENT OF THE SOVIET DESANT FORCE STRUCTURE(U)
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EXPLOITING THE VERTICAL

DIMENSION: CONTINUING DEVELOPMENT

OF THE SOVIET DESANT*

FORCE STRUCTURE

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EXPLOITING THE VERTICAL DIMENSION:
CONTINUING DEVELOPMENT OF THE SOVIET DESANT* FORCE STRUCTURE

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May 1987

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EXPLOITING THE VERTICAL DIMENSION:
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INTRODUCTION

Since the late 1920's, Soviet military theorists have recognized the potential of airborne forces to develop tactical success into operational success. From the earliest experiments in the 1930's to the present day, a multitude of Soviet writings and analyses have examined in detail the utility of the vertical dimension in supporting offensive operations. Thus, the early establishment and continuing development of airborne units and suitable transport aircraft, together with the more recent integration of the helicopter and air assault forces into the Soviet force structure are the consequences of 50 years of experience, experiments and detailed scientific analysis of war and the role of vertical assault forces. In the past we have been witness to massive force structure changes, equipment development, and evolving operational concepts. The current Soviet Airborne Forces (Vozdushno-Desantnye Voiska or VDV) of eight divisions and a continuously expanding Military Transport Aviation (Voенно-Transportnaia Aviatsiia or VTA) are two examples of this evolution. The key term here, however, is evolution. The development of the forces and means to exploit the vertical

*The Soviet concept of 'desant' is defined in the Voennyi entsiklopedicheskii slovar' (Military Encyclopedic Dictionary) as 'forces, specially prepared and landed or designated for landing on the enemy's territory for the purpose of conducting combat actions'. In other words, it encompasses both the force and the landing of the force together in one term.

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dimension is ongoing. So despite the extraordinary resource investment already made, a 1986 Warsaw Pact military journal article on future war pointed to fundamental changes yet to come:

New air assault helicopters, which are universal air combat vehicles are now appearing. They give the basis for the formation of new types of formations and subunits of troops in the ground forces, i.e., air-assault troops and air-mechanized troops. In connection with this, one can anticipate that this process will lead, as a result, to broader qualitative change and a transformation of ground troops into ground-air troops.(1)

The author of this article, Polish Col. Koziej, goes on to say that this qualitative change in turn requires new thinking on the part of commanders. That is, officers must be capable of evaluating the battlefield not just from a tank or BMP "but also, and perhaps most of all from the height of a helicopter flight".(2)

Significant changes continue to take place today in the Soviet desant force structure. We believe that indicators and precursors of a number of these changes are now evident in the Soviet military media and that the full scope of this Soviet desant effort has not been recognized in the West. This paper examines these changes in an evolutionary context, and presents the possible implications for NATO planners.

THE DIALECTIC IN OPERATION

In order to understand the Soviet concept of change in a military sense, it is necessary briefly to examine the Marxist concept of the dialectic by which all Soviet development occurs.

There are three laws that govern development. First is the unity and struggle of opposites, as for example, the development of aircraft and air-defense weapons. Second is the translation of quantitative change into qualitative change. This aspect of the dialectic is referred to in the Polish article above with regard to helicopters and air assault forces. Finally, the third law is the negation of the negation. In this law a particular condition (thesis) subject to objective laws and forces gives rise to a new condition (anti-thesis) which negates the first and develops into a new condition (synthesis).(3) An excellent example of this process is presented by Marshall N. V. Ogarkov, then Chief of the General Staff writing in Istoriia uchit bditel'nosti (History Teaches Vigilance).

The process of dialectical negation is continuing in military affairs. At the present time, various means of combat with tanks, aircraft, and to a large extent also ships, including aerial means, are rapidly developing. They have already reached a quantitative and qualitative state which, taking into account the action of the laws of dialectics, insistently requires careful study of these new tendencies and the possible consequences of their development. It is dangerous to ignore these tendencies.(4)

Clearly, Ogarkov believes we are in a period of profound change with serious implications for the future.

In a larger context we can understand this process with regard to developments in Soviet thinking about the Theater Strategic Offensive. With the Revolution in Military Affairs, the Soviets ascribed the dominant role in war to nuclear weapons. They proceeded to mechanize the entire army to provide the mobility and protection necessary to exploit nuclear strikes.

The role of the airborne forces also increased as they were seen as the best means "...of utilizing more quickly the results of nuclear strikes for the complete destruction of enemy groupings".(5)

By the mid 1960's the Soviets had begun to reexamine the nature of operational art and acknowledge the possibility of a conventional phase of war. By the early 1970's, the growing effectiveness of anti-tank guided missiles focused Soviet attention on analyzing means for overcoming dense anti-tank defenses specifically in a NATO context. The Soviets conducted exhaustive analysis of World War II--particularly their Great Patriotic War experience--as well as the experiences of local wars and the changes wrought by new technologies and concepts. Among the many notable results was the resurrection of the Mobile Group (Operational Maneuver Group) as a means of gaining a mobility advantage over the enemy at the operational level. They also examined the role of forward detachments in pre-empting enemy defenses and securing advantageous lines for the OMG in order to maintain the tempo of the attack. As Air-Land Battle and Follow on Forces Attack became operative concepts in NATO, the Soviets continued to examine means of overcoming these "negations of the negation" by analyzing the effects of precision guided munitions and "reconnaissance-strike complexes", studying the effects of shallow echelonning and rapid concentration for the breakthrough, and reexamining their wealth of experience in maskirovka and deception. It is important to understand that

Soviet solutions to the problems of future war are directly shaped and influenced by detailed analysis of their historical experience. Based on their perceptions of future war, the Soviets design the force structure and equipment necessary to implement their ideas.

Throughout this entire developmental process, the Soviets have continuously examined the vertical dimension of combat. As Soviet force structure and operational concepts develop, so to have the forces and means necessary to exploit the vertical dimension. To structure this analysis it is necessary first to look briefly at the developments that have brought the Soviets to where they are today. Although airborne forces and air-assault forces are treated separately in the following discussion, their development in fact has been parallel and inter-related.

AIRBORNE AND AIR ASSAULT FORCES AND THEIR LIFT

The Soviets pioneered the development and employment of airborne forces in the 1930's. Their less than fully successful employment during the Great Patriotic War (Vyazma and the Dnepr' operation) in no way diminished Soviet advocacy as to their utility in deep operations. The introduction of nuclear weapons and the Revolution in Military Affairs catalyzed continued development of the airborne forces and the VTA lift necessary to employ them. While conventional combined arms forces were de-emphasized under Khrushchev, the airborne forces found their role expanding. As noted above, their role as a means of rapidly

exploiting nuclear strikes made them an essential element in any theater operation. Recognizing that the airborne potential was limited principally by the lack of adequate transport aircraft, the Antonov design bureau was tasked to create true assault transport aircraft. The result was the fielding in the 1950's of the AN-8 and more significantly, the AN-12, a medium cargo aircraft similar in size and capacity to the American C-130. This highly capable aircraft made possible mass employment of airborne forces at relatively great distances in support of theater nuclear operations. Marshall V. D. Sokolovskii in his authoritative work Military Strategy, first published in 1962, commented on the unique importance of airborne troops under modern conditions:

...it should be expected that the role of airborne troops in the operations of a future war and their importance among Ground Troops will increase considerably. This can be explained by the changing nature and increased number of tasks to be performed.(6)

This statement heralded the rapid development that would take place in the next twenty years.

A hint of where the Soviets were going with their airborne forces appeared in the classified General Staff journal Voennaia mysl' (Military Thought) in July 1966. Titled "The Growing Role of Airborne Troops in Modern Military Operations", the article laid out an agenda of further airborne development.(7) Among the points presented was the utility of the helicopter for tactical landings and the possibility of employing containers for landing troops from high altitudes. Of significant interest however is a

comment on an article appearing in the September 1965 issue of the American journal Military Review on what the author termed "kinestatic" troops. Kinestatic troops would be employed in enemy rear areas with "secondary mobility" thus increasing their effect by quantum. The Soviet authors agreed:

...troops which constitute the [airborne] force need the same qualities which are inherent in the troops attacking from the front: a high degree of maneuverability and the possession of all types of weapons, equipment and material means necessary to conduct long-range military operations.(8) (emphasis added).

It is here that the Soviets differ most from Western armies in their perceptions of airborne operations. In most historical instances, the airborne operation--Soviet or Western--ended with the landing of the force. Maneuver was largely at the speed of the infantryman. Soviet recognition of this inherent weakness in "normal" airborne operations, especially on the modern battlefield, established the key to further development of their force. In the Soviet concept of the vozdushnii desant (airborne assault), the landing of the force is simply the beginning of the operation. "Secondary mobility" is the essential element that "...will justify the expenditure of the vast amount of forces and means which are needed to ensure landing". (9)

The earliest attempt to solve the mobility problem was the introduction of the ASU-57 assault gun in 1957. This was an airborne-unique piece of equipment with a 57 mm gun and an open troop compartment in the back for six personnel. Close on its heels came the ASU-85 assault gun, first fielded in 1962. These

two systems were organized into an assault-gun battalion within the airborne divisions and also provided limited troop mobility, as well as firepower and armor protection to the airborne force. Initially numbering 12 ASU-57's and 6 ASU-85's in the assault-gun battalion, the effort to transform "quantity" into "qualitative" change in the force resulted in battalions organized with 30 systems at division level and companies with 10 systems at regimental level.(10)

The extent of airborne force development became quite apparent during the major exercises Dnepr' (1967) and Dvina (1970). During Dnepr' the Soviets dropped two complete airborne divisions with their equipment in support of a front offensive.(11) The Dvina exercise three years later demonstrated the "state of the art" in airborne operations by dropping the 76th Guards Airborne Division with its equipment in just 22 minutes.(12) Dvina also marked the first use in an airborne assault role of the new VTA aircraft, the AN-22 COCK. The AN-22, introduced in the mid 1960's, allowed the lift of outsize cargo and was a substantial increase in overall airlift for the VTA.

The 1970 Dvina maneuvers also saw the secret, successful testing of another airborne-unique piece of equipment that was soon to change fundamentally the nature of Soviet airborne operations. The development and production of the BMD (Boevaia Mashina, Desantnaia or airborne combat vehicle) was the Soviet answer to the problem of "secondary mobility" in the enemy rear area. Equipped with a 73 mm gun, anti-tank guided missile

launcher, three machineguns and having a 300 km cruising range, the BMD could carry an airborne squad.(13) This evolutionary development (which to the West appeared revolutionary) allowed forces to be dropped some distance from their objectives, gain a measure of surprise and security through maneuver, and attack multiple targets during raiding operations. Initially fielded in only one of the three airborne regiments of each division, the deployment pattern followed a typically Soviet course until by 1980 the airborne divisions were completely mechanized. (14)

The appearance in 1974 of the IL-76 CANDID had no less effect on the growing capabilities of the VTA. The IL-76 doubled the lift capacity of the AN-12 and began replacing that aircraft in service. More importantly, it almost quadrupled the range of possible employment of airborne forces and made them a significant power projection force. As evidence of the enhanced capabilities, during the exercise "Brotherhood in Arms" conducted in 1980, the Soviets parachuted an airborne regiment west of the Elbe in the German Democratic Republic following a non-stop flight in IL-76's from the western Soviet Union.(15)

Examination of the role of airborne forces continued with exercise Zapad 81. Generally seen as a test of major components of nonnuclear theater strategic operations in a conventional environment, the exercise included the employment of a reinforced airborne regiment in cooperation with an Operational Maneuver Group.(16) In general, Soviet airborne forces have been used in virtually every major exercise since the early 1960's. This in

itself underlines the value the Soviets place on their utility for solving operational and operational-strategic problems.

Evidence of the continuing Soviet commitment to airborne forces and operations also appears in the most recent developments. The BMD continues to undergo refined development and several variants now exist. In addition, the AT-3 Sagger on the BMD has been replaced with the AT-5 Spandrel.(17) The introduction of the BMP-2 with a 30 mm automatic cannon into the ground forces suggests that the BMD will soon be similarly armed. In an effort to increase the firepower organic to the airborne divisions, a truck mounted 122 mm multiple rocket launcher has replaced the older towed model.(18) The Soviet investment in airborne-unique equipment continues apace with the development and fielding of a 120 mm combined howitzer-mortar, based on a stretched BMD chassis, perhaps intended to replace the towed D-30 122 mm guns, 120 mm towed mortars, or possibly, the ASU-85's.(19) The significance of this "self-propelled mobility" trend is that the divisions are receiving a substantial increase in firepower with a concomitant reduction in the overall airlift requirement due to the elimination of many prime movers. Finally, the deployment of the AN-124 CONDOR as the replacement for the AN-22 COCK will substantially increase the lift capacity of the VTA into the 1990's. With a lift of 170 metric tons, the AN-124 doubles again the capacity of the AN-22.(20) Coupled with continued production of the IL-76, the introduction of the AN-124

into the VTA fleet should solve any conceivable airlift problem.(22)

It should be emphasized again that the development of Soviet helicopters and air-assault concepts paralleled developments within the airborne forces and VTA. Interest in the utility of helicopter-borne troops, especially in tactical desants, dates to the late 50's. One of the earliest, authoritative references comes once again from Sokolovskii's 1962 edition of Military Strategy:

During the [offensive] operation, wide use will be made of tactical and operational airborne landings. These will have the task of solving problems of the most effective use of the results attained by massed nuclear strikes-capture of the regions where nuclear weapons are located, important objectives, river crossings, bridgeheads, mountain passes, defiles, and the annihilation of strategic objectives which cannot be put out of commission in any other way. Helicopters will be used as the main means of dropping tactical airborne troops. Transport planes can be used for operational landings.(21)

Interest in heliborne assault operations resulted from the Soviet realization that the increased effectiveness of air defense systems, especially in Europe, precluded mass employment of airborne forces except in "...the most important sectors."

(22) Writing in 1965 in Voennaia mysl' (Military Thought) Major General Kublanov pointed out that

If the employment of operational landing forces under the previously examined [high threat] conditions will not occur as widely as envisioned, then the opposite is true with the use of small tactical landing forces landed mainly by helicopter with limited objectives.(23)

General Kublanov then went on to make a remarkably prophetic statement, "They [tactical desants] are becoming the most

important means of maintaining high offensive tempos of ground forces."(24)

The other aspect of helicopters that made them attractive to the Soviets was the minimal training time necessary to convert regular motorized rifle troops into tactical air assault forces. The basic training manual for this purpose was The Motorized Rifle Battalion in the Tactical Air Assault Force, published in 1969.(25) Motorized rifle troops were employed in this role on numerous exercises and were considered especially useful in cooperating with forward detachments and seizing river crossings. For example, the 1967 Dnepr' exercise constituted a major test of helicopter assault and fire support concepts.

Development of the means to effectively conduct heliborne assault operations occurred in the early 1960's with the fielding of two lift helicopters. The Mi-6 HOOK is a heavy lift aircraft capable of lifting 70 troops or one BMD. The Mi-8 HIP, displayed later, is probably the most versatile aircraft in any inventory. It's primary role is as a troop carrier (24 personnel). However it also serves as a heavily armed attack helicopter, command and control aircraft and platform for radio-electronic combat. Fielding the Mi-24 HIND attack helicopter in the early 70's rounded out the rotary wing triad and indicated that the Soviets had undertaken a major commitment to developing air assault operations.

To further illustrate the growing Soviet commitment to heliborne/air assault operations, it is useful to compare the

writings of one of the most prominent Soviet military theorists, Lieutenant General Reznichenko. In his fundamental work Tactics, published in 1966, he mentions airborne and air assault operations only in passing or in conjunction with forward detachments or river crossings.(26) The growing importance of helicopters is apparent, however, in a 1976 Reznichenko article for the military newspaper Red Star. Titled "Tactics: Development Trends", Reznichenko comments on the significant changes in the wind:

While these aircraft [helicopters] remained a means of the air forces and were used as transport and auxiliary vehicles, their influence on tactics was limited. However, the transformation of the helicopter into an armored combat vehicle, fitted with various powerful weapons and radioelectronic equipment, is having a substantial impact on the conduct of combined arms battle.(27)

As the role of helicopters and tactical desants grew during the 1970's, it is clear that a distinct division of labor was taking place in the desant force structure. The increasing numbers of helicopters made tailored motorized rifle troops the "force of choice" for tactical landings. This freed the airborne divisions for operational and operational-strategic missions. Such mission tailoring was evident during major Soviet exercises, notably "Shchit (Shield) 76", "Berezina 78", "Neman 79", "Brotherhood in Arms 80" and "Zapad 81".(28)

As Soviet military theorists continued examination of the nature of war in the late 1970's, the mobile group concept of the Great Patriotic War was resurrected as the Operational Maneuver Group.(29) In addition, the utility of forward detachments in

getting into the enemy tactical depth early to pre-empt formation of dense antitank defenses became more apparent. As a result of this analysis and the lack of sufficient forces to exploit the vertical dimension throughout the depth of the battlefield, the Soviets began formation of dedicated air assault units at front and army level.(30) These units were based on cadre elements drawn from regular Guards airborne divisions and trained in both airborne and air assault techniques. Their role was to "fill the gap" that existed between the operational/operational-strategic depth (airborne forces) and the tactical depth (motorized rifle forces in tactical desant). More specifically, they were to cooperate with the forward detachments and OMGs of the army and front and assist their penetration to operational depths as well as perform other missions in the operational-tactical depths. This was a further refinement of the mission tailoring addressed above. These forces wear standard VDV uniforms, but in most cases, without the guards designation. Organized in brigade strength at front (Groups of Forces, Military District) level and later at battalion strength at army level, these forces gave commanders an organic means to exploit the vertical dimension without having to rely on airborne forces from the TVD commander* or the Supreme High Command. Simultaneous establishment of helicopter regiments as part of front and army aviation provides

*TVD is the Russian abbreviation for Teatr' Voennykh Deistvii or, in English, Theater of Strategic Military Action (TSMA).

the means to employ these new forces. In addition, air assault units were also equipped with BMDs and the new howitzer-mortar to satisfy the penchant for secondary mobility once in the enemy rear area.(31)

At about the same time air assault units were being formed in the early 1980's, Soviet planners were undertaking a parallel effort in the Naval Infantry.(32) The initial manifestation of this effort was a dramatic one. In the major Soviet exercise Zapad 81, addressed earlier, an entire naval infantry battalion was landed by parachute to fulfill a mission essential to the support of the main amphibious landing forces. This marked the first publicized demonstration of a new capability for Soviet Naval Infantry--airborne assault operations. Since 1981, there have been a series of exercises involving naval infantry units in airborne assault operations against coastal targets, and increased discussion about airborne training for naval infantry units generally.

It is clear from these reports that parachute training has been introduced into Naval Infantry training programs on a far greater scale than has been the case in the past. The Soviets cite the benefits of such training in the psychological tempering of all naval infantrymen. That naval infantry reconnaissance personnel and units are placing more emphasis on paradrop activity is evident as well.

Of far more significance, however, evidence points to the establishment of new Naval Infantry parachute assault units in

the Northern, Baltic, and Black Sea Fleet Naval Infantry Brigades, and in the Pacific Fleet Naval Infantry Division. On the basis of initial reporting, it is judged that these units would be armed, equipped, and trained to undertake a full spectrum of tactical airborne assault, as well as special purpose missions. We postulate that these units are of battalion size-- constituting "naval infantry parachute assault battalions"-- and would be employed to spearhead large-scale amphibious assault landings or assigned independent missions to include conducting raids against multiple targets along coastal axes. Judging from the exercises and other press discussions, it appears that these battalions are trained to land by alternate methods, to include multiple methods in the same operation. For example, one recent assault landing exercise involving a Naval Infantry battalion, featured one company landing by parachute, one by helicopter, and one by assault hovercraft. In addition, on one occasion, naval infantry airborne units were photographed parachuting with BMD airborne combat vehicles. This suggests that "secondary mobility" will be a characteristic of naval infantry airborne assault forces as well.

The rationale underlying the creation of these new units is clear. Since the employment of airborne assault forces is integral to most amphibious landing operations, specialized airborne forces dedicated to this role became critical to the timely planning and execution of joint landings. Just as front and army commanders required--and received--air assault brigades

and battalions under their direct control, so too have Naval Infantry commanders established a requirement for highly skilled, readily available assault forces trained for landing by parachute, helicopter, assault hovercraft, or other expedient means. They would be employed for those mission that were particularly complex and difficult, whether spearheading an amphibious assault, or operating independently against key coastal targets.

The shared combat traditions and common employment concepts of Soviet marine and airborne units have been combined effectively in the creation of Naval Infantry parachute assault units, which should be regarded as Naval Infantry analogs to the air assault units of fronts and armies. That Soviet planners are investing so heavily in the establishment of a Naval Infantry airborne assault capability, underlines both the continuing Soviet commitment to the combat potential represented by airborne/air assault forces, and a recognition that Naval Infantry forces possessing a full range of capabilities, are essential to the conduct of theater operations.

As quantitative change within the desant system translated into qualitative change, the need for a new lift aircraft was identified. The result was the Mi-26 HALO, first fielded in 1985 and soon seen employed with air assault units. The Mi-26 is an all-weather, heavy-lift aircraft, capable of carrying 85+ personnel, but probably more useful for its capacity to carry two BMDs. With an initial production run of 300, this aircraft

promises to be an important air assault asset into the year 2000.(33)

The development of air assault forces and means, like that of the airborne forces, has been evolutionary in nature. Responding to the perceived requirements of modern combat, constantly examining their historical experience for application and applying available technology to support operational concepts, the Soviets have developed the desant force structure and lift necessary to accomplish their wartime objectives. It is important to emphasize, however, that this process is continuing. A number of recent indicators point to fundamental changes in the force structure at the tactical and operational-tactical level.

TACTICAL AIR ASSAULT FORCES

Soviet military theorists continue to examine in great detail the phenomena of future combat under conventional (albeit "nuclear scared") conditions. This has led to a renewed emphasis on tactics and particularly on the development of tactical success into operational success through the use of forward detachments, operational maneuver groups and desants. To succeed operationally (the critical level), the Soviets recognize the necessity for penetrating the tactical depth quickly. The helicopter and air assault forces are increasingly becoming the primary means for accomplishing that mission.

We believe that the Soviets are establishing permanent tactical air assault forces at the division level to further define the overall desant force structure. Appreciating the dialectical nature of Soviet force development and the development of theories and technologies in that context makes this a logical evolution. More than logic drives us to this conclusion, however. Before examining some of the harder evidence, let us turn to Soviet writings for some initial clues to this development.

The 1977 edition of Soviet Military Encyclopedia (SME) describes four major types of desant: strategic, operational, tactical and special designation.(34) We will eliminate desants of special designation for this analysis. The remaining three categories correspond to the Soviet definition of the levels of war. Between 1977 and publication of the 1983 edition of the Military Encyclopedic Dictionary (MED), examination of the nature of war drove the Soviets to resurrect two additional levels of war, generally not used during the "nuclear" period in the 60's. Thus, they again recognize the strategic, operational-strategic, operational, operational-tactical and tactical levels.(35) The operational-strategic and operational-tactical levels overlap the higher and lower levels of war. These levels of war are usually tied to depth but are also determined by the location of enemy forces, level of controlling headquarters, significance of targets, weapons systems capabilities and geography. For example, at the operational-tactical level a target or objective

could be located in the tactical depth but its elimination or seizure could have operational significance and allow forces to develop tactical success rapidly into the more critical operational success. This further delineation of the battlefield pointed out the need for more air assault forces to operate at these levels--thus the formation of the air assault brigades and battalions at front and army level. Also the term, "strategic desant" has been eliminated in the 1983 MED and replaced with the "operational-strategic desant" which now incorporates the various tasks and functions earlier encapsulated in the former term. Under the entry for desant, the MED states

The basis for operational-strategic and operational airborne assaults consists of units (chasti) and formations (soedinenniya) of the Airborne Forces (VDV); tactical desants are formed primarily from the body of combined arms formations and units.(36)

When one looks at the desant entry in the 1986 edition of the MED however, the above passage has undergone a subtle change.

The basis for operational-strategic and operational airborne assault forces consists of the units and formations of the VDV; the basis for operational-tactical and tactical desants-come from subunits (podrazdelenia) of the airborne and combined arms formations and units. (emphasis added).(37)

Additionally, in the 1983 edition, the entry for "air assault attack" (vozdushno-shturмоваia ataka) was labeled as a "foreign" term.(38) In the 1986 edition it is eliminated entirely as a separate entry and included instead under "desantno-shturмоваia deistviia" (landing-assault actions) and not noted as a foreign term. (39) The significance of these changing entries is that the Soviets have embraced air assault

operations at the operational-tactical and tactical levels in their entirety and have coined a distinctly Russian term (desantno-shturmovaya deistviya) to describe them. The recent publication of photographs in Red Star of what were clearly "air assault" troops, indicated that these were part of a desantno-shturmovoe podrazdelenie--literally a "landing-assault unit," or what we in the West have chosen to call air assault troops.(40)

Further evidence of fundamental evolutionary change occurring in the desant force structure appeared in the important 1982 work by Lt. Gen. Kir'ian entitled Military-Technical Progress and the Armed Forces of the USSR. In it Kir'ian states that the VDV has been removed from direct subordination to the Ministry of Defense (where it had been since 1964) and included in the ground forces "...on the level of a separate combat arm".(41) The result is significant.

From the operational-tactical point of view, this has promoted closer coordination of the combat operations of airborne assault forces with those of combined arms formations and field forces.(42)

Such an arrangement also makes it much easier to field and train new air assault forces at the tactical level by drawing on the VDV for cadres.

Lt. Gen. Reznichenko's 1984 edition of Tactics embraces the tactical desant as a constant factor in modern operations. This is in sharp contrast to the 1966 edition. Reference to tactical desants proliferate in this work, and he goes so far as to include the tactical desant as an element within the definition

of the envelopment (obkhod). (43) In addition, nowhere does he describe the tactical desant as being made up of motorized rifle troops as was the rule in earlier similar works. (44) This implies the existence of a specially trained desant force at the tactical level.

Some of the rationale for Soviet recognition of the utility of tactical desants to support forward detachments has been described earlier. More detail appeared in the 1986 edition of The Forward Detachment in Battle. In this work an entire section is devoted to "joint action of the forward detachment with tactical air assault forces". (45) More than that, the author states that the activities of the tactical desant more and more approximate the forward detachment.

The tactical desant, like the forward detachment, acts with the goal of developing the uninterrupted offensive to a high tempo and are used during the development of the offensive in the tactical defensive zone of the enemy, in the depth of the defense, for supporting river crossings from the march and during the conduct of offensive battle under special conditions. (46)

Further, "the actions of the tactical desant after landing, closely approximates in character the actions of a forward detachment". (47) This in turn, implies the availability of secondary mobility within the desant.

A most recent article in the March 1987 issue of Military Herald lends credence to this similarity. (48) It describes a parachute battalion in an exercise acting as a forward detachment, which is organized with attached artillery and engineers and has a mission to seize a river crossing and hold it

until the arrival of the "main forces" (glavnye sily). Although many articles have been written about desants operating in cooperation with forward detachments, this appears to be a unique example of an airborne force assuming this mission itself. The tactical nature of the journal (battalion and below), the organization of the battalion, and the time to accomplish the mission (5 hours after landing), point to the battalion operating as a motorized-rifle or tank division forward detachment. If we hold this line of reasoning and examine other evidence, the case becomes clearer.

The uniform of the VDV troops is unique within the Soviet armed forces. The Soviet paratrooper wears a light blue beret and distinctive collar tabs and sleeve insignia. In addition, his tunic is worn open at the neck revealing a blue and white striped sailor's shirt (tel'niashka). This tradition began in the early 1960's when General Margelov, a former naval infantryman was in command of the VDV, although, according to the 1986 edition of the MED, it officially dates only from 1979.(49) The air assault units at front and army wear an identical uniform with the exception that in most cases they do not wear the distinctive insignia of a guards unit. The officers of the VDV usually wear the standard service uniform when not in the field, once again with light blue insignia and distinctive airborne collar badges. The officers service cap has a light blue band and air force insignia as opposed to strictly army insignia.

The unique aspects of the uniform makes it quite easy to differentiate between airborne troops and other troops of the Soviet armed forces.

In recent years, however, different uniform variations have appeared in various pictures and photographs, suggesting a "new" form of airborne troops. Because these uniforms are such key indicators of force structure change, it is necessary to address new uniform developments in some detail.

For example, the May 1984 issue of Standard Bearer carried a colored line drawing on the cover depicting marching ranks of enlisted soldiers wearing jump wings and carrying folding stock AKM's. What makes the picture unusual is that instead of the beret they are wearing the standard army service cap. In addition, they are wearing ties instead of the VDV tel'niashka. A year later in the same magazine a color photograph appeared without caption or commentary.(50) In it, a soldier wearing the airborne collar insignia is shown taking his military oath. However, once again he is wearing the standard service cap and tie. More significant, his collar tabs and hat band are red, not light blue. This indicates he belongs to a combined arms formation at the tactical level. Also featured is an officer, once again in standard (not VDV) uniform with red tabs and a standard army service cap. The officer is wearing the Red Star, an award usually issued as a result of combat performance. Both the officer and other enlisted men visible in the picture are wearing parachute qualification badges, further confirming this

is an airborne qualified unit of some type. The flag in the photograph provides us the identity of the unit. Visible on the flag are the Russian letters o t d and y v a. These letters are the visible portion of the Russian words otdel'nyi and razvedyvatel'nyi which means "separate reconnaissance...", that is, the reconnaissance battalion of a motorized rifle division. With the exception of the airborne collar insignia and the presence of parachute badges on the uniforms, these troops could be standard motorized rifle troops. This photograph is extraordinarily important in that it points to the existence of airborne-qualified formations organic to tactical-level combined-arms units.(51) The unique uniform and badge/color combination suggests further that a new branch of troops (rod voisk) may have been formed. The standard uniform distinguishes them from the VDV guards airborne divisions. The presence of the guards badges preclude them generally from being the front and army air assault assets. Finally, the color red has always signified a combined arms formation at the tactical level, that is division and below.

Manning the increasing number of airborne and air assault units in the force structure has caused the Soviets to look beyond the previous single track officer accession pattern. The officers for the VDV normally graduate from the four year airborne military academy at Riazan. The increasing demand for officers apparently now allows other accession routes to the air assault forces. For example, many officers now are graduates of combined arms academies.(52) Following graduation they can

volunteer for airborne service. In addition, it appears that such combined arms graduates can be reassigned to motorized rifle units after serving in air assault units. This is evident by a number of photographs showing motorized rifle officers wearing parachute qualification badges. (53)

A final, and most important point based on photographic evidence concerning tactical desants: Previously, tactical desants were usually lightly equipped, that is without secondary mobility. This was due to the types of short duration "seize and hold" missions they were given. However, a Military Herald article in the December 1986 issue pictures a group of soldiers receiving instruction on the BMD.(54) Once again, the soldiers are not wearing berets but instead the standard army side cap and closed tunic. The parachute wings, VDV arm insignia and guard badges are however, very evident. The implication is, that tactical landing forces may also be equipped with the BMD for secondary mobility. Recalling the earlier article on the parachute battalion as a forward detachment and the comment that tactical desants approximate in character a forward detachment makes it clear that the Soviets still consider secondary mobility essential to the success of any airborne or air assault mission, even at the tactical level.

Formation of tactical landing forces within the airborne/air assault force structure is an example of the evolutionary nature of Soviet military development applied to the vertical dimension. The growing importance of forward detachments and penetration of

the tactical depth raised the need for trained air assault units at the tactical level. Such an organic force, especially when equipped with BMD's, is far more capable of accomplishing those desant missions than a lightly equipped, specially trained motorized rifle unit.

SUSTAINING DESANT OPERATIONS

Soviet efforts to develop the logistic infrastructure and employment concepts capable of supporting deep--and in some cases sustained--operations by airborne and air assault forces has become far more apparent since the late 1970s. One of the most important developments in this regard, has been the recent restructuring of the materiel support system of airborne and air assault units. This was carried out in the context of a much larger, force-wide logistic restructuring effort, but was particularly important for forces that had to operate independently.(55) As a result of this reorganization, every airborne division and air assault brigade now has a materiel support battalion combining under one commander all transport, ammunition, POL, and other supplies. This new, streamlined logistic command and control arrangement--which abolishes the old motor transport battalions and fragmented resupply responsibilities found under the earlier system--enables desant commanders and staffs to more rapidly task-organize materiel support packages in accord with mission requirements. In addition, materiel support units have been assigned far more

demanding rear area security missions in the expectation that logistic support areas will be the object of heavy enemy attack.

There has been extensive exercising of airborne and air assault resupply and technical support options to include special experimental exercises. These have featured training in the standard methods of cargo paradrop and airlandings by long-range transports, technical support approaches, and medical evacuation, and have been accompanied by doctrinal discussions of supply conservation and the exploitation of captured resources.(56) However, the more mobile airborne/air assault operations now envisioned, the heavier logistic requirements associated with what are now essentially light armored forces, and the extended time these units may be required to operate in enemy rear areas, have called for supplemental approaches--particularly for helicopter-delivered assault forces.

Several years ago, the Soviet military press began to devote increasing attention to the use of combat helicopters in support of what were called airborne units.(57) It is clear now, that this marked the beginning of Soviet efforts to develop workable approaches to the helicopter support of BMD-equipped air assault units at front and army-level, particularly in a sustainment role. The Soviet military press has increasingly highlighted, by photograph and article, the key role helicopters will play in resupplying BMD-equipped air assault units. For example, one article discussed the establishment of a helicopter "air bridge"

(vozdushnyi most) to support elements of an air assault brigade located in the Transbaikal Military District.(58)

While articles in the Soviet press have sketched out a number of air assault logistic support concepts centering on the use of helicopters, the Polish military press has provided more detail. A series of three articles (two published in 1985 and the most recent in June 1987) provided substantial insight into how the assault and transport helicopters of an operational maneuver group would be sustained.(59) The effective operation of these helicopters would be key to the successful employment and sustainment of air assault forces assigned to the OMG. The articles confirmed that multiple helicopter landing and support areas would be located in an OMG rear base area behind enemy lines. Each of the the landing areas would apparently serve a number of functions to include helicopter refueling, rearming, and repair areas; sites for the delivery of materiel supplies; and evacuation centers for wounded personnel.

Such areas would clearly be key to the successful operation of the OMG, and there is a Warsaw Pact expectation that losses to enemy weapon systems will be heavy. These potential losses are cited as being up to "several tens of percent" daily.(60) As a consequence, helicopter landing areas will be relocated frequently every day. While the Soviets have closely studied the possibility of maintaining land links to an OMG under some circumstances, the most recent Polish article appears to rule out the possibility of such a ground link. As a consequence,

casualties in some cases may have to be left behind, and replenishment will apparently rest totally on air resupply and the exploitation of captured resources.

The Polish articles indicate that detailed missions have been worked out for each of the rear service elements supporting helicopter aviation in the OMG. Of particular note, for example, is the guidance that the food service of helicopter aviation units must have the resources to store and transport provisions for up to "several tens of days of combat operations." (61) This suggests that the helicopter assets of an OMG--and the OMG itself--may be tasked to operate in enemy rear areas for a far longer time than some analysts have postulated.

Overall, it is clear that logistic support approaches have been developed for the helicopter and air assault components of OMGs, and for deep operations generally. These are far more sophisticated approaches than were reflected in earlier Soviet/Warsaw Pact military literature, and this attention to the development of logistic support concepts and options underscores the Soviet intent to employ and sustain airborne and air assault forces on a broad scale.

THE BATTLEFIELD

The creation of permanently formed landing forces at each level of command within the Soviet force structure, clearly constitutes a grave threat to NATO rear areas from shallow tactical depths, to the deep rear. That is, as the Soviets have

delineated the battlefield into various depths, they have also designed the force required to exploit the vertical dimension at those depths, and in addition have addressed the special problems of conducting airborne assault operations along coastal axes. Figure 1 shows a schematic of how the force design supports the Soviet view of the battlefield. The newest addition to the Soviet desant force structure--tactical landing forces--now can assume responsibility for the entire tactical zone, freeing the army and front air assault assets to operate in the operational-tactical and operational zones to support their respective forward detachments and/or operational maneuver groups. Similarly, naval infantry airborne assault units reduce the requirement for airborne troops to routinely support amphibious landings or attack high priority coastal targets which could be located 100 or more kilometers from the coast.

A tactical landing force could be employed as a single unit (for example, as a forward detachment or to pre-empt a counterattack or even enemy deployment in the covering force area), or it could be employed as three or four company-sized units to strike vulnerable, high-payoff targets such as nuclear capable artillery, command posts or helicopter lager areas. Such missions, if successful, could dramatically change the tactical correlation of forces very quickly and assist the Soviet tactical commander in developing tactical success into operational success. Employment of the tactical desant beyond artillery range (generally 20 km) is made possible by the increasing number

of Mi-24 Hinds available to provide fire support. Employment of the tactical desant does not preclude employment of motorized rifle troops in company or battalion size desants in support of regiments or divisions (depending on lift availability and timing). Small tactical desants in support of regiments would probably occur within the 20 kilometer range of most divisional organic artillery. The simultaneous employment of tactical desants with operational-tactical, operational, and operational-strategic airborne landings are intended to have a paralyzing effect throughout the depth of the defense, especially if the assault forces were equipped with BMDs and able to maneuver.

The lift for simultaneous desant operations is an obvious limiting factor (at present) for their employment. Figure 2 illustrates the organic lift available to the front, army, and division and the requirements for various force packages. Not shown are the aviation reserves of the TVD commander. One should not be misled by the apparent discrepancy between available lift and required lift, however. The front commander will normally identify a main axis (napravleniye) and task organize his assets to support that axis. In other words, the commander will assign his assets to those formations critical to the operation's success. In turn, each army commander can provide lift to those divisions operating on his main axis. In this way, scarce assets are applied to the critical axis while other units may receive no reinforcing assets at all.

The front commander would apply a similar method in allocating the support of his fixed-wing aircraft from frontal aviation. These aircraft would establish temporary air superiority over a specific corridor allowing the insertion of the various desants. The desants themselves would be equipped with a proliferation of light air defense weapons for self protection and use mobility and concealment to gain additional security. From a Soviet perspective, survival of the force is not the most critical factor. What is critical, is for the force to accomplish a certain mission by a finite time or for a fixed duration of time in support of the tactical battle and operational objective. The criticality of each mission will determine the allocation of assets to insure its success.

TRENDS

Throughout this paper, we have stressed the importance the Soviets attach to the vertical dimension of conflict. This will no doubt continue into the next century. In the earlier cited Polish article on future developments in ground combat, the author states that, "in addition to tanks and BMPs, helicopters are becoming the third basic means of combined arms combat." Interestingly, the author also co-opts the Western term "air-land" combat operations and goes on to say

There is no doubt that under the influence of the rapid development of helicopters, air-land tactical operations will become the dominating procedure at the threshold of the 21st century. (62)

Having examined the dynamics of desant force development in a dialectical context, some speculation is possible on the future.

As the Soviets examine future war, it is entirely conceivable that they might again conclude that there are more targets in the enemy's depth than desant assets to strike them. The probable response to that finding could be an upgrade of the present front air assault brigade to a multiple-brigade, possibly a corps formation. A historical precedent exists for such an organization. At the outset of the Great Patriotic War, five airborne corps of three brigades each were assigned to the most important western military districts. They were removed and placed under the Supreme High Command primarily because the lift assets for them had been destroyed in the early days of the war. If such an expansion takes place at the front level, a similar upgrading of the army air assault battalion to a brigade is quite feasible.

It is also probable that expansion of the helicopter regiments at front and army level will continue in order to provide sufficient organic lift to employ the various desant units. In addition, the division helicopter detachment has been recently upgraded to a squadron with these squadrons themselves increasing in size.(63) As aircraft production continues, these units will probably be expanded to provide the lift for the growing force structure.

Continuing development of helicopters will occur. For example, the design of the Hokum and Havoc suggests the Soviets are interested in designing mission-specific aircraft.(64) The future Soviet helicopter fleet will include more heavy lift aircraft for transporting BMDs, medium lift aircraft for troops, ground attack aircraft for close air support and possibly aircraft uniquely designed for air-to-air combat. These aircraft could then be organized into packages to support the various types of desants.

Finally, a hint of the future appeared in an article in the 4 March 1987 issue of Red Star.(65) Entitled "Moskitnaia Aviatsiia" (Mosquito Aviation), the article examined the military utility of employing armed ultra-light aircraft as "air cavalry". Couched in the usual Soviet terminology as coming from "foreign sources" the article is reflective of serious Soviet interest in the uses of these aircraft to defeat high technology air defense systems for two reasons. First, the diagram accompanying the article depicts an ultra-light aircraft with all the possible weapons combinations with which it could be equipped. The fact is, that the diagram is an almost exact copy of a diagram published by Eipper Industries, a US ultra-light aircraft company. The diagram was included in a promotional brochure that was distributed at the Paris air show in 1981, an event normally well attended by Soviet representatives.(66) That this diagram should appear six years later implies a serious, long term Soviet examination of the subject. The second point concerning the

article is the author, Lt. Gen. I. Lisov. Lisov has been associated with the Soviet airborne forces since 1934 and is responsible for most of the historical and theoretical works on employment of airborne forces in the Soviet Union.(67) His association with the article should be considered advocacy of the utility of military ultra-lights in the strongest sense. The proliferation of DOSAAF ultra-light flying clubs throughout the Soviet Union as well as within the military itself should be the cause of more than passing interest. Also of note, the Antonov design bureau, responsible for the design and production of the AN-12, AN-22 and the new AN-124, is the only facility in the Soviet Union producing ultra-light aircraft.(68) The types of missions Lisov outlines for these "subunits" of ultra-lights are a typical Soviet prescription for all desants:

[They] have a special place for operations in the rear: destroying bridges and crossing points in the path of approaching reserves, rocket launchers, command and control means, for conducting reconnaissance and for correcting fires.(69)

The fact that these aircraft are easily concealed, require a minimum amount of operator training and have low signatures and a good cruising range (200 km.) makes them an ideal tool for exploiting the vertical dimension. It is very possible that ultra-light aircraft are the latest permutation of the desant dialectic in action.

CONCLUSIONS

The evolution of the Soviet desant system remains a dynamic process. We in the West generally have trouble understanding Soviet military developments. Our focus tends to concentrate on a particular weapons system (T-80) or countermeasure (reactive armor) or even force structure (air assault brigades). The Soviet approach is primarily a systems approach, that is, the interrelationships of technology, force structure, operational concepts and man himself. If we are to be successful in accurately perceiving Soviet force developments in all arenas, we must come to grips with understanding this unique approach to development. If we can do this, we will avoid the tendency to define Soviet military capabilities on the basis of a "snapshot" that reflects only a stage of development. By viewing trends in a systems context, with an understanding of the Soviet dialectical approach to military development, we can acquire some predictive ability and reduce the time lag between particular Soviet developments and our understanding of them. This is very important, as any such "understanding gap" represents a potential danger.

FIGURE 1

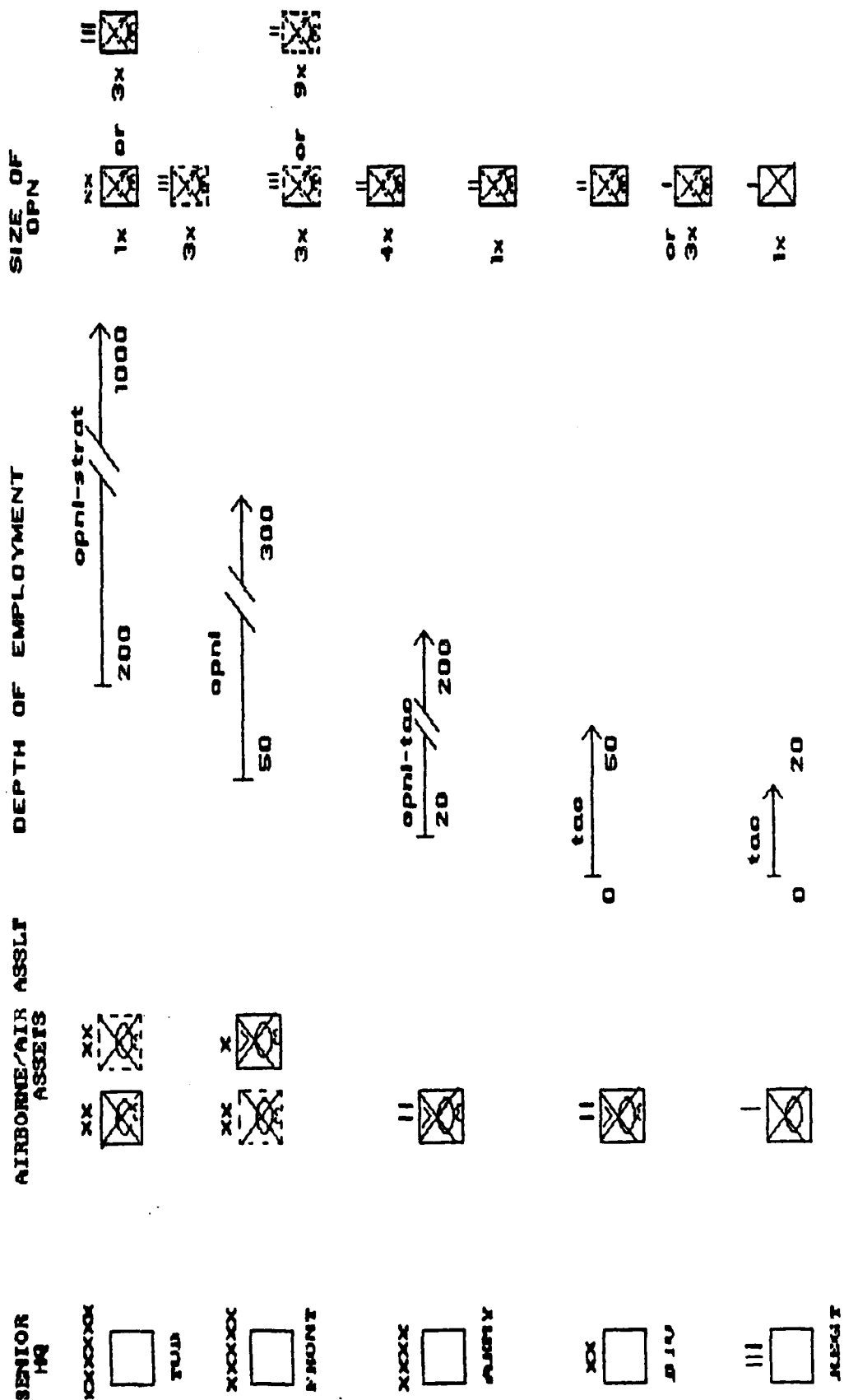


FIGURE 2

LIFT ASSETS*

LIFT REGTS**

	XXXXX	XXXX	XX		III	II	II***
	-----	-----	-----		-----	-----	-----
					w/ BMD	w/o-BMD	w/ BMD
Mi-2 HOPLITE 8 pax		6	8	"			
Mi-8/17 HIP C/H 28 pax	32	30	8	"		18	18
Mi-24/Mi-8 HIND E/HIP E 8 pax (exception)		40	8	"		4	4
Mi-6 HOOK 65 pax, 1xBMD	24	3		"		9	40
	OR						OR
Mi-26 HALO 85+ pax, 2xBMD	24			"			21
An-12 CUB 60 para; 90 pax, 2xBMD				"	180		
				"			
					OR		
Il-76 CANDID 140 para; 150 pax, 3xBMD				"	70		
				"			

* Sources: Dept of Army, FM 100-2-3, The Soviet Army, Troops, Organization and Equipment, pp. 4-124, 4-122; Übungsgliederung ROT 1986 (Training Organizations:Red), ANT for Nachrichtenwesen der Bundeswehr, Abt III (Heer). Also note that although fixed wing transport is not normally allocated to the front in peacetime, Vif regiments would be allocated by the Supreme High Command or the TVD for employment of airborne divisions.

** Sources: Estimates drawn from C.N. Donnelly, "The Soviet Helicopter on the Battlefield", International Defense Review, No. 5 (1984) and C. Pflugrath, "Evolution of Soviet Military Helicopters: from Freighters to Fighters", Military Technology, No. 8 (1986). Recent photographs indicate the Soviets have organized their Hinds into flights of four vs. three.

*** If only one company of the battalion was equipped with BMDs, the heavy lift required would drop to 19 Mi-6 or 10 Mi-26.

ENDNOTES

(1) S. Koziej, "Przewidywane kierunki zmian w taktyce Wojsk Ladowych" (Anticipated Directions for Change in Tactics of Ground Troops), Przegląd Wojsk Ladowych, (Review of the Ground Forces) (September 1986), pp. 5-9. We extend our thanks to Dr. Harry Orenstein, Soviet Army Studies Office, for bringing this article to our attention.

(2) Ibid.

(3) J. Kipp, The Methodology of Foresight and Forecasting in Soviet Military Affairs, unpublished manuscript, Soviet Army Studies Office, Ft. Leavenworth, KS.

(4) N. Ogarkov, Istoriia uchit bditel'nosti (History Teaches Vigilance), (Moscow: Voenizdat, 1985), p. 54.

(5) K. Andrukhov and V. Bulatnikov, "The Growing Role of Airborne Troops in Modern Military Operations," Voennaia mysl' (Military Thought), (July 1966), translated in Selected Readings from Military Thought 1963-1973, Part I, ed. Joseph Douglass (Washington D.C.: U.S. Government Printing Office [hereafter cited as USGPO], 1982), p. 117.

(6) V. Sokolovskii (ed.), Military Strategy (Moscow: Voenizdat, 1962), translated by Harriet Scott, (Stanford Research Project: Menlo Park, CA, 1971), p. 293.

(7) Andrukhov, "The Growing Role of Airborne Troops...", pp. 116-123.

(8) Ibid., p. 122.

(9) Ibid.

(10) D. Glantz, unpublished manuscript Evolution of Soviet Force Structure 1918-1980, Soviet Army Studies Office, Ft. Leavenworth, KS; F. Wiener and W. Lewis, The Warsaw Pact Armies, (Vienna: Ueberreuter, 1977), p. 78.

(11) R. Oden and F. Steinert, "The Soviet Airborne Troops", Review of Soviet Ground Forces (RSGF), (March 1980), p. 7.

(12) V. Kostilev, "Stanovlenie i razvitie Vozdushno-Desantnikh Voisk" (The Establishment and Development of the Airborne Forces), Voenno-Istoricheskii Zhurnal (Military Historical Journal, hereafter, ViZh), No 9 (1975), p. 85.

(13) Yu. Burtsev, "Boevaia Mashina Desantnaia" (Airborne Combat Vehicle), Znamenosets (Standar Bearer), No. 9 (1980), pp. 12-13.

- (14) See G. Turbiville, "Airborne Troops", Soviet Armed Forces Review Annual 1981 and 1982-3 (SAFRA), David R. Jones (ed.), (Gulf Breeze, FL: Academic International Press, 1982, 1984), p. 160 in 1981 volume, p. 266 in 1982-83 volume.
- (15) F. Steinert, "Exercise Brotherhood in Arms", RSGF, (June 1981), p. 11.
- (16) A. Shero and R. Oden, "Exercise Zapad-81", RSGF, (April 1982), p. 4.
- (17) See the cover of Voennyi vestnik (Military Herald), No. 2 (1984).
- (18) This weapon was pictured in a brief photographic feature in Znamenosets, No. 8 (1986), p. 4.
- (19) U.S. Dept. of Defense, Soviet Military Power, 1985, (Washington, D.C.: USGPO, 1985), p. 68.
Also see inside front cover of Tekhnika i vooruzhenie (Equipment and Armaments), No. 1 (1987).
- (20) Although Soviet Military Power 1987 assigns a lift capability of 150 metric tons, a Soviet source gives a capability of over 170 metric tons; see Soviet Life, (Jan 1986), p. 25.
- (21) Sokolovskii, Military Strategy, trans. by Harriet Scott, p. 339.
- (22) I. Vorobyev, "Forward Detachments in Offensive Operations and Battles", Voennaia mysl' (April 1965), translated in Selected Readings from Military Thought 1963-1973, Part I, ed. Joseph Douglass (Washington D.C.: USGPO, 1982), p. 98.
- (23) G. Kublanov, "Vozdushnye desanti i bor'ba s nimi v sovremennoi voine" (Airborne Assaults and Combat with Them in Modern War), Voennaia mysl' No. 8 (1965), p. 48.
- (24) Ibid., p. 49.
- (25) I. Liutov and P. Sagaidak, Moto-strelkovyi batal'on v takticheskoi vozdukhnoi desante (The Motorized Rifle Battalion in the Tactical Air Assault Force), (Moscow: Voenizdat, 1969).
- (26) V. Reznichenko, Taktika (Tactics), (Moscow: Voenizdat, 1966), see pp. 211, 241, 276-277, 309, 310, 317.
- (27) V. Reznichenko, "Tactics: Developing Trends", Krasnaia zvezda (Red Star), October 5, 1976, translation appearing in Harriet Fast Scott and William F. Scott (ed.), The Soviet Art of War (Boulder, CO: Westview Press, 1982) p. 281.

- (28) See Steinert and Oden, "The Soviet Airborne Troops", RSGF, (March 1980); V. Gol'tsev, "V nastuplenii-severnye" (On the Offensive-the Northerners), Izvestia, Feb 9, 1978 and I. Dynin, "Takticheskii vozdukhnyi desant" (Tactical Airborne Landing Force), Voennyi vestnik, No. 4 (1978), p. 35-38; R. Oden, "Exercise Neman", RSGF, (Jan 1980), pp. 5-11; F. Steinert, "Exercise Brotherhood in Arms", RSGF, (June 1981), pp. 9-12; A. Shero and R. Oden, "Exercise Zapad-81", RSGF, (April 1982), pp. 1-7.
- (29) See C. Donnelly, "The Soviet Operational Manoeuvre Group-A New Challenge for NATO", International Defense Review (hereafter cited as IDR), No. 9 (1982), pp. 1177-1186; C. Dick, "Soviet Operational Manoeuvre Groups-A Closer Look", IDR, No. 6 (1983), pp. 769-776; J. Hines and P. Peterson, "The Warsaw Pact Strategic Offensive-The OMG in Context", IDR, No. 10 (1983), pp. 1391-1395.
- (30) Soviet Military Power, 1986, p. 65.
- (31) Soviet Military Power, 1985, p. 68.
- (32) G. Turbiville and C. Pritchard, "Soviet Naval Infantry in the Airborne Assault: New Forces and Capabilities", manuscript to be published in future issue of Marine Corps Gazette.
- (33) Conversation with Sergei Sikorsky, vice president for government affairs for United Technologies, 9 Jan 1987.
- (34) N.V. Ogarkov (ed.), Sovetskaia voennaia entsiklopediia (Soviet Military Encyclopedia, hereafter cited as SME), (Moscow: Voenizdat, 1977), Vol. 3, p. 152.
- (35) N.V. Ogarkov (ed.), Voennyi entsiklopedicheskii slovar' (Military Encyclopedic Dictionary, hereafter cited as MED 1983), (Moscow: Voenizdat, 1983), p. 229.
- (36) Ibid.; For a detailed discussion of the evaluation of Soviet desant definitions, see Charles Pritchard and Graham H. Turbiville, "The New Turn and Soviet Air-Sea Landing Forces", draft manuscript, 1987.
- (37) S.F. Akhromeyev (ed.), Voennyi entsiklopedicheskii slovar' (Military Encyclopedic Dictionary, MED 1986), (Moscow: Voenizdat, 1986), p. 229.
- (38) Ogarkov (ed.), MED 1983, p. 149.
- (39) Akhromeyev (ed.), MED 1986, p. 230. The term literally means "assault-storming action" but is better translated as "air assault action"; this is an example of the preciseness of Russian military terminology.

(40) "Pravoflangovye sorevnovaniia," (Right-Flank Competition), Krasnaia zvezda, 16 May 1987, and photograph in Krasnaia zvezda, 17 June 1987, p. 2.

(41) M.M. Kir'ian (ed.), Voenno-tekhnicheskii progress i Vooruzhennye Sily SSSR (Military-Technical Progress and the Armed Forces of the USSR), (Moscow: Voenizdat, 1982), p. 303. However, VDV units remain Reserves of the Supreme High Command (RVGK) employed or allocated only at the VGK's discretion.

(42) Ibid.

(43) V.G. Reznichenko, Taktika (Tactics), (Moscow: Voenizdat, 1984), p. 61.

(44) The one place where he does refer to motorized rifle troops is under a larger rubric of movement by air; see Ibid. p. 76.

(45) F.D. Sverdlov, Peredovie otriady v boiu (Forward Detachments in Battle), (Moscow: Voenizdat, 1986), pp. 152-157.

(46) Ibid., p. 152.

(47) Ibid., p. 153.

(48) R. Salikhov, "V peredovom otriade" (In a Forward Detachment), Voennyi vestnik No. 3 (1987), pp. 33-36. See also R. Baikhev, "Peredovoi otriad forcirovet reku" (The Forward Detachment Forces the River), Voennyi vestnik No. 12 (1983), pp. 58-62. This article identifies a parachute battalion acting as a forward detachment for a larger airborne force in contrast with the first article.

(49) Akhromeyev (ed.), MED 1986, p. 734.

(50) Znamenosets, No. 5 (1985), p. 3.

(51) A further search of journals and newspapers has turned up a surprising number of similar photographs, unfortunately though, not in color. For the most recent example see page 1 of the 15 April 1987 issue of Krasnaia zvezda. Among a group of military delegates to the 20th Komsomol Congress stands a sergeant in standard service uniform with airborne collar insignia, parachute badge, guards badge and a Red Star for service in Afghanistan.

(52) For an example see "Yego vybor" (his choice), photo on page 2 of Krasnaya zvezda, 26 March 1987.

(53) See covers of Voennyi vestnik, No. 1 (1984) and No. 11 (1985).

(54) B. Baranov, "Desantniki povishaiut tekhnicheskii znaniia" (The Paratroopers Increase their Technical Knowledge), Voennyi vestnik, No. 12 (1986), pp. 30-31.

(55) See Graham H. Turbiville, Jr., "Soviet Logistics Support Concepts Change," Army Logistician: ALOG, March-April 1987, pp. 2-7, for a discussion of this logistic reorganization in its tactical dimensions.

(56) Graham H. Turbiville, Jr., "Airborne Troops," Soviet Armed Forces Review Annual, vol. 7 (Gulf Breeze: Academic International Press, 1984), pp. 266-269, addresses airborne logistic support approaches.

(57) See, for example, K. Kurochkin, "V tylu protivnika" (In the Enemy Rear, Krasnaia zvezda, 15 July 1980.

(58) S. Tulekov, "S pomoshch'iu vertoletov," (With the Help of Helicopters) Tyl i snabzhenie sovetskikh vooruzhennykh sil (Rear and Supply of the Soviet Armed Forces), November 1986, pp. 26-28. While this article pictured Mi-6 helicopters refueling BMD airborne combat vehicles, a 9 February 1986 Krasnaia zvezda article, "Vertoletnyi desant" (Helicopter Assault), indicated that the Transbaikal air assault brigade was supported by the new Mi-26 HALO.

(59) Romuald Mankowski, "Zabezpeiczenie tylowe lotnictwa wojsk ladowych dzialajacego w skladzie i na korzysc operacyjnych grup manewrowych" (Rear Support of Ground Forces Aviation Acting as Part of, and for the Benefit of, an Operational Maneuver Group), Przeglad Wojsk Lotniczych I Wojsk Obrony Powietrznej Kraju (Air and Air Defense Forces Review), April 1985 (pp. 35-39), May 1985 (pp. 56-59) and June 1987 (pp. 51-56).

(60) Ibid. (June 1987), p. 53.

(61) Ibid., p. 55.

(62) Koziej, "Anticipated Direction for Change in Tactics of Ground Troops", p. 5.

(63) Soviet Military Power 1986, p. 66.

(64) Ibid., p. 67.

(65) I. Lisov, "Moskitnaia aviatsiia" (Mosquito Aviation), Krasnaya zvezda, 4 March 1987, p. 3.

(66) Telephone conversation with Eipper Industries representative, 1 April 1987.

(67) For biographic data a review of one of Lisov's major publications, see S. Taran, "Kniga o krylatoi pekhote", (Book about the 'Winged Infantry'), ViZh, No. 6 (1969), pp. 99-104.

(68) John W.R. Taylor, ed., Janes All the World's Aircraft, 1986-87, (London: Janes, 1986), p. 610.

(69) Lisov, "Moskitnaia aviatsiia".

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